

DOCUMENT RESUME

ED 153 400

EC 110 349

AUTHOR Welch, Michael W.; Dowdy, Carol
 TITLE The TEACH Cycle: An Educational Model.
 PUB DATE May 78
 NOTE 17p.; Paper presented at the Annual International Convention, The Council for Exceptional Children (56th, Kansas City, Missouri, May 2-5, 1978, Session T32)

EDRS PRICE MF-\$0.83 HC-\$1.67 Plus Postage.
 DESCRIPTORS Conceptual Schemes; *Educational Diagnosis; Elementary Secondary Education; *Handicapped Children; *Individualized Programs; *Learning Disabilities; *Models; *Program Planning; Task Analysis

ABSTRACT

The paper traces the progression of diagnostic and treatment models for the learning disabled and/or mildly handicapped child and offers an educational model, the TEACH Cycle, which is applicable to instruction and is neither curriculum-bound nor globally child-centered. The medical, classification, and process models are briefly considered. The TEACH model is described in terms of four stages: the development of the task sequence which is to be learned, assessment of the degree to which the student has acquired skills, incorporation of prior knowledge concerning the individual child, and recording academic progress in relation to the task sequence. (SBH)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

ED153400

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

The TEACH Cycle: An Educational Model

Michael W. Welch, Ed.D.
Director

Carol Dowdy, Ed.S.
Assistant Director of Programs

Division of Special Education/Vocational Rehabilitation
Center for Developmental and Learning Disorders
University of Alabama in Birmingham
1720 7th Avenue South
Birmingham, Alabama 35294

EC 110349

The TEACH Cycle: An Educational Model

Abstract

The TEACH Cycle is an attempt to put into perspective various diagnostic and treatment strategies for the learning disabled child and to offer a more logical approach to the educational problems associated with this population of school age children.

The TEACH Cycle: An Educational Model

The diagnostic and treatment process which has had direct bearing on service delivery to learning disabled and mildly handicapped children came initially from the work of professionals attempting to identify a group or population of children with similar handicapping characteristics. These characteristics were used to locate and describe a homogeneous population which could be categorized and grouped according to the medical, psychological, and other diagnostic indices developed. Various attempts at group categorization using this rationale have been made (Strauss, 1947; Kephart, 1960; Orton, 1937; Clements & Peters, 1966).

The major assumption of this rationale is that the problem is identified as a handicapping condition, syndrome, or cause of faulty learning. This identified cause then necessitates the production, by educators, of a curriculum to teach children so categorized. The curriculum, then, is centered around identified characteristics (Strauss & Lehtinen, 1947; Kephart, 1960; Inskeep, 1926; Ingram, 1935). These curricula are all handicap-centered rather than skill-centered and are modified according to the general handicapping characteristics of the child.

Unfortunately, none of the mildly handicapped populations fit neatly into categories. Characteristics of this population range from one extreme to the other along different dimensions, and the condition can rarely be determined; for example, the definitions offered for learning disabilities display the confusion associated with mildly handicapping problems. The curricula, however, have been created for homogeneous populations. These curricula logically could not fit all children's needs if the children are

heterogeneous as to handicapping condition or behavior. The utilization of a curriculum seldom allows for deviation in individual children, leaving the classroom teacher bound to the inflexible curriculum which she or the system adopts.

The major problem with curricular usage seems to be the focus of concern on the child and/or the handicapping condition. That concern is a legitimate one for the professions of medicine, psychology, and social services, but for education the concern must be academic achievement in the form of adding to a child's repertoire of basic skills such as words he can read or math problems he can solve.

This article will trace the progression of diagnostic and treatment models for the learning disabled and/or mildly handicapped child; it will, in addition, offer an educational model which is applicable to instruction and is neither curriculum-bound nor globally child-centered.

PROGRESSION OF DIAGNOSTIC AND TREATMENT MODELS

Models for identification and treatment of exceptional children have developed historically with contributions from various disciplines. Traditionally, identification has been the function of other disciplines and service delivery the function of the Special Education teacher. This progression has gone through the process represented in Table 1.

Insert Table 1 about here

Initially, emphasis was primarily medical. Children were identified on the basis of physical and/or behavioral characteristics. The major cause for referral was the child's inability to maintain adequate academic progress in school. Etiology was the diagnostician's major concern and this attempt

to locate causes was determined by various instruments. The diagnosis was then made which categorized the children of concern into "homogeneous" groups. Treatment for these identified children was based on the determined etiology and was not stated in terms of instruction. Usually, treatment was in the form of chemotherapy, exercise, and/or special diet. Only nominal help is afforded the educator by this process, and virtually no assistance is given to the instructional process of education. Treatment is separate from education, and generally the teacher is not even knowledgeable of the treatments employed.

Diagnostically, services to mildly handicapped children came a step further with the advent of the intelligence test and the adoption of the classification model. This prediction device afforded the opportunity to identify children who would experience academic difficulty and also allowed education the opportunity to place into special administrative arrangements the children identified by these tests. This procedure, however, again offers only placement, without regard to educational programming.

The Process Model, the third approach in this diagnostic and treatment progression, attempted to eliminate the problem of individualizing instruction; that is, in this model the child could be tested, taught, and re-tested for evaluation of success. The essential criticism of this model is that diagnosis and treatment are rarely related to the academic task. The assumption is that basic learning processes have to be strengthened prior to the introduction of academic tasks. Reading, writing, and arithmetic are introduced only after the processes have been strengthened through treatment. The opposite assumption, that the processes may be strengthened by academics, seems to have been ignored. The major problem with the process model is that of efficacy. Education has at this point no firm data to show that this

approach works in regard to increasing academic skills (Hammill & Larsen, 1975).

The authors are proposing an additional approach which does not supplant the previous categories but does put them into a better perspective for educational purposes. The TEACH Model incorporates to a large degree the most pertinent portions of the previous approaches and also makes the contribution of each more relevant to the educational process.

The model proposed initially incorporates information relative to physical and/or medical problems which the student may be experiencing, information relative to prediction of academic capabilities, and indications of any limitation relative to process difficulties. The major difference in the proposed and previous models is that this model emphasizes what the student must do in relation to the academic task and de-emphasizes his deficits or treatment relative to his handicap. A major shift in emphasis is made, directing the teacher's concern more to what is to be learned than who is to learn. Table 2 depicts the stages through which the model

Insert Table 2 about here

directs the work of the classroom teacher who is responsible for imparting academic tasks to students enrolled in her class.

A PROPOSED MODEL: THE TEACH CYCLE

Stage 1 of the TEACH Model, the development of the task sequence which is to be learned, is the first and most important step. The emphasis is placed upon what is to be learned rather than on disabilities which may prevent the child from acquiring the skill. While most educational models

emphasize or have a global, child-centered orientation, this model emphasizes the academic task the child is to learn, irrespective of any problems which the child may be encountering. Regardless of the student's problem, the task to be completed does not change. Vowel sounds remain the same, whether or not the child has been classified as mentally retarded, learning disabled, or normal on any measure.

Each academic task is composed of numerous smaller tasks or sub-tasks which must be isolated, described behaviorally, and sequenced, thus enabling the student to progress through the sub-tasks necessary to perform the instructional objective (Bateman, 1971). For example, addition is a task composed of the summing of single-digit numerals, two-digit numerals, three-digit numerals, single digits with regrouping, two digits with regrouping, and so on. The delineation of instructional tasks, both behaviorally and sequentially, is stage 1 of the TEACH Model.

Stage 2 of this model is the assessment of the degree to which the student has acquired skills. The prerequisite skills which he does not behaviorally exhibit must be acquired in order for the student to acquire competence in the task performance. This then delineates the responsibility of the classroom teacher: she must identify skill deficits in relation to the academic task in order to identify her terminal goals for each individual student. A number of criterion-referenced tests are available for the assessment of entering skills; however, often a teacher's own delineation of the sub-tasks for a particular instructional objective can act as the most effective evaluation. Standardized tests which at best give general grade level functioning are of little value in this model except in regard to research or placement decisions. In the TEACH Model, the teacher assesses relevant entering behavior and determines which prerequisites to successful

completion of the task the child lacks. The deficit skills are identified and the task of remediation is more easily managed by this high degree of specificity.

Stage 3 of the cycle then incorporates prior knowledge concerning the individual child, such as physical limitations possibly interfering with the acquisition of content or behavioral characteristics which may interfere with the speed with which or degree to which the skill may be acquired by any individual student. Obviously, the stages or steps of the task ladder would have to be modified according to the severity of the individual learning disabilities and characteristics of each student. Teaching methods, strategies, and materials are chosen and employed here to insure that the deficit skill is acquired effectively and efficiently by individual students. Behavioral problems such as hyperactivity, distractability, and apathy are dealt with at this point, and preferably are always managed through or in conjunction with the academic task itself. The utilization of behavioral principles derived from learning theory is applied in this stage of the cycle, but with qualification. That qualification would be the utilization of a molar view rather than a molecular view of the use of these methods. For example, a molecular view of out-of-seat behavior would point to the being out-of-seat as the target behavior, whereas the molar view would be that if increased amount and quality of academics were occurring, then the amount and degree of maladaptive behavior would necessarily decrease. The two behaviors are incompatible; a child cannot write if he is throwing his pencil, cannot read if he is looking out the window. The utilization of the Premack Principle and the pairing of incompatible behaviors are emphases of Stage 3 of the cycle (Premack, 1959; Watson, 1926). These particular

strategies are utilized by the classroom teacher for each individual child, and a plan is outlined for the child with the goal or terminal objective consistently being the acquisition of the previously-identified academic task. Also emphasized in Stage 3 is the teacher's expertise in applying principles of learning to the development and utilization of materials to teach the task (Taber, Glaser Schaefer, 1965). Activities which were used in the Process Model to train deficit processes alone should be incorporated when possible into strategies for teaching a particular task. For example, to increase memory skills, the child can learn multiplication tables instead of memorizing unrelated number sequences. Students could then benefit from the strong points of both models, with first priority given to academic skill acquisition.

Stage 4 of the model requires that an adequate record of academic progress in relation to the task sequence be kept. Numerous records of specific inappropriate or maladaptive behaviors need not be kept if steady and consistent academic progress is noted. The only variable of concern for the teacher, if academic progress is being made, would be the concern centered around speed or rate of acquisition: Is the student performing adequately in quality as well as quantity of academic work? If either of these variables is not being handled adequately, then the model directs that the teacher must decide that reprogramming of a new teaching strategy is necessary and must readjust the procedures used. The assumption is that faulty or inadequate learning is the fault of the programmer, not of the student (Bateman, 1971). If, on the other hand, progress is at an acceptable rate, the task sequence may be completed and a new task analyzed for this student. The model is then recycled for the next academic task. Though not proposed as the educator's panacea, this model offers more to education

than has singly been provided by previously utilized curriculum-bound models. The TEACH Model incorporates the strengths of previous models as outlined in Table 1, but it also adds particular strength in its degree of specificity, objectivity, and measurability of success. The educator's concern in this model seems more appropriately placed, and his progress at successfully meeting his professional responsibilities is more easily measured. The teacher's progress is measured behaviorally through the steps outlined for the learner; the teacher's success is determined by the evaluation of the quality and rate of the learner's performance in regard to basic academic skill acquisition.

The TEACH Model eliminates the problems inherent in norm-referenced teaching. The results from evaluations utilizing norm-referenced instruments give teachers a global view of how a child is performing according to the norm; this information allows the instructor to decide on what grade level the child should be receiving instruction. For quite some time, this adaptation in teaching strategy was viewed as the primary one necessary for individualized instruction. Thus the child was not only tested and judged according to the normed population, he was also instructed through a method or curriculum developed for a normed population. Criterion-referenced tests and subskill delineation of academic tasks, as proposed by the TEACH Model, cut across grade levels and normed objectives, specifying the academic skill deficits of an individual child without regard to the grade level of that instructional objective. The teaching process itself becomes a more purposeful and efficient operation, capitalizing upon matching the child's performance with a specific criterion for academic success.

The TEACH Model is a compilation of input from educators who take a conservative view of education, educators who advocate a behavioral view of

the educational process, and input from various models proposed by other professionals, such as the clinical teaching model developed by Lerner (1971) and a similar model proposed by Wallace (1975). Each of the theoretical positions and the educational treatment models have a great deal of merit and represent prevailing thought in regard to educational treatment of the mildly handicapped. The TEACH Model combines prevailing isolated positions into one comprehensive model. The combination effects of the above treatment postures produce a synergistic effect that none of the positions could have produced alone. The process of combining thought or theoretical positions is, of course, not new. The work of Resnick (1973) combined the work of developmentalists into a task-analytic mathematics curriculum similar to the TEACH Model. These combinations of separate theoretical positions produce a combined synergy which affords a stronger approach than either position singly. The combination of a behavioral view of educational treatment with an academic skills view of education strengthens both positions. Academics become the target behavior to be measured, charted and addressed; in the same regard, academic skill acquisition becomes measurable and monitorable with the instructor making educational decisions from a behavioral data base.

Initial efforts to test the efficacy of the TEACH Model have been undertaken as part of an E.S.E.A. Title II validation project within the Jefferson County Public Schools in Birmingham, Alabama. A teacher training procedure was implemented to demonstrate the utilization of a model which was the origin of the TEACH Model discussed in this paper. The model's basic elements are identical except for the charting component of the proposed model. Data indicate that students of teachers who utilized this model made significantly higher gains on standardized academic tests than did those students whose teachers did not utilize the model (Welch & White, 1977).

References

- Bateman, B.D. The essentials of teaching. San Rafael: Dimensions Publishing Co., 1971.
- Clements, S. & Peters, J. Minimal brain dysfunctions in school-age children. Archives of General Psychiatry, 1962, 6, 185-197.
- Hammill, D.D. & Larsen, S.C. The effectiveness of psycholinguistic training. Exceptional Children, 1974, 41, 5-14.
- Ingram, C.P. Education of the slow learning child (3rd ed.). New York: Ronald Press, 1960.
- Inskip, A. Teaching dull and retarded children. New York: The Macmillan Co., 1930.
- Kephart, N.C. The slow learner in the classroom (2nd ed.). Columbus: Charles E. Merrill, 1971.
- Lerner, J.W. Children with learning disabilities: Theories, diagnosis, and teaching strategies. Boston: Houghton, Mifflin Co., 1971.
- Orton, S.T. Reading, writing and speech problems in children. New York: Norton, 1937.
- Premack, D. Toward empirical behavior laws: I. Positive reinforcement. Psychological Review, 1959, 66, 219-233.
- Resnick, L.B., Wong, M.C. & Kaplan, J. Task analysis in curriculum design: A hierarchically sequenced introductory mathematics curriculum. Journal of Applied Behavioral Analysis, 1973, 6, 679-710.
- Strauss, A.A. & Lehtinen, L.E. Psychopathological education of the brain-injured child. New York: Grune & Stratton, 1947.
- Taber, J.I., Glaser, R. & Schaefer, H.H. Learning and programmed instruction. Reading, Mass.: Addison-Wesley, 1965.

Wallace, G. & McLaughlin, J.Q. Learning disabilities concepts and characteristics. Columbus: Charles E. Merrill, 1975.

Watson, J.B. Experimental studies on the growth of the emotions. In C. Murchinson (Ed.), Psychologies of 1925. Worcester, Mass.: Clark University Press, 1926.

Welch, M.W. & White, M.S. The curriculum process model: A task-analytic approach. Paper in preparation, 1977.

TABLE 1

PROGRESSION OF DIAGNOSTIC AND TREATMENT MODELS FOR THE LEARNING DISABLED

3

Orientation to Child's
Handicapping ConditionOrientation to Child's Academic
Task Acquisition

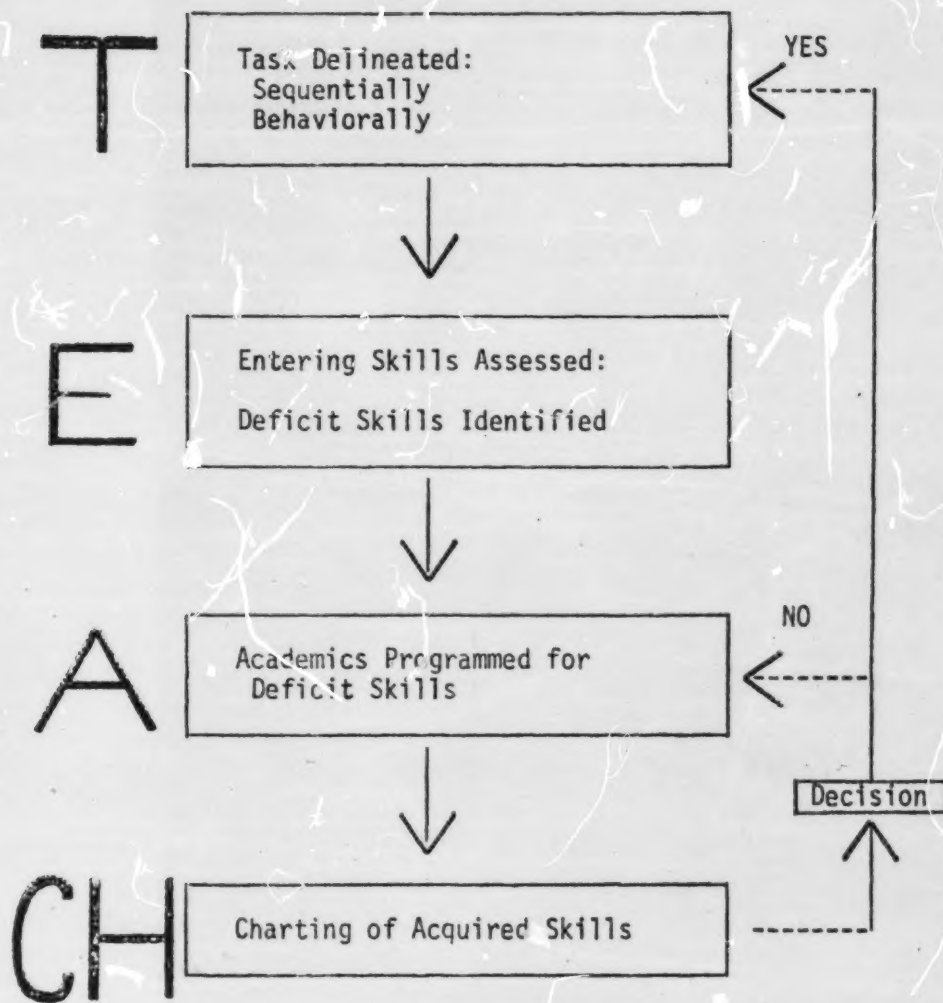
	Etiological Model	Classification Model	Process Model	Teach Model
Instrument	Medical Syndromes Assessed: 1. Neurological Exam a. EEG b. X-ray c. Evoked Response 2. Physical Examination 3. Laboratory Tests 4. Other	Intelligence Assessed: 1. Wechsler Intelligence Scale for Children 2. Wechsler Adult Intelligence Scale 3. Stanford-Binet Test of Intelligence 4. Hiskey-Nebraska 5. Other	Processes Assessed: 1. Illinois Test of Psycholinguistic Abilities 2. Frostig-Horn Test of Visual Perception 3. Wepman Test of Auditory Discrimination 4. Goldman-Fristoe-Woodcock Auditory Skills Battery 5. Other	Task Delineated: Behaviorally Sequentially 1. Reading 2. Math 3. Vocational Behaviors 4. Other
Diagnosis	Cause Determined: 1. Minimal Brain Dysfunction 2. Central Nervous System Dysfunction 3. Hyperkinesia 4. Dyslexia 5. Strauss Syndrome	Label Attached: 1. Mental Retardation 2. Learning Disability 3. Emotional Disturbance 4. Gifted	Process Deficit Identified: 1. Receptive Deficit 2. Association Deficit 3. Expressive Deficit	Entering Skills Assessed: Deficit Skills Identified: 1. Assessment instruments a. KeyMath b. Gallistel-Ellis c. BCP d. Other 2. Remediation Prescription
Treatment	Prescribed: 1. Drugs 2. Exercise 3. Diet 4. Megavitamins 5. Environmental Control	Placement Made: 1. Special Class 2. Special School 3. Vocational Rehabilitation	1. Deficit Process Trained as Identified by Battery 2. Strongest Sensory Modality Trained	Academics Programmed for Deficit Skills
Eval.	Periodic Re-examination	Re-evaluation for Confirmation	Re-administration to Note Progression in Terms of Treatment	Charting of Acquired Skills

Clinical & Physical

Norm Referenced

Criterion Referenced

TABLE 2



T H E E A C H